

6m

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/694,466	GALLATIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vuthe Siek	2825	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed on 10/27/03 and 4/16/04.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☒ The drawings filed on 16 April 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"><li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li><li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li><li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>10/27/03</u></li><li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li></ol> | <ol style="list-style-type: none"><li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li><li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li><li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li><li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li><li>9. <input type="checkbox"/> Other _____</li></ol> |
|--|---|

  
**VUTHE SIEK**  
**PRIMARY EXAMINER**

### **DETAILED ACTION**

1. This office action is in response to application 10/694,466 filed on 10/27/2003.

Claims 1-30 remain pending in the application.

#### ***Examiner's Amendment***

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Curcio (44,638) on 6/29/2005.

The application has been amended as follows:

**Specification, page 1**, lines 2-3, after Serial No., insert --10/694,465--, delete "Attorney Docket No. FIS920030108, "; line 6, after Serial No., insert --10/694,473--, delete "Attorney Docket No. FIS920030109, "; lines 9-10, after Serial No., insert --10/694,339--, delete "Attorney Docket No. FIS920030110, "; lines 12-13, after Serial No., insert --10/694,299--, delete "Attorney Docket No. FIS920030262, ".

### **EXAMINER'S STATEMENT AS TO THE REASONS FOR ALLOWANCE**

3. Claims 1-30 are allowed over the prior art of record.

4. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or fairly suggest a computer program method for performing

Art Unit: 2825

model-based optical proximity correction comprising the steps of calculating a finite integral for each sector of a mask polygon having defined corners to determine sector contributions from vertices of the mask polygon; integrating on a finite shape in the sector rather integrating on the full sector to achieve a finite integral on the finite shape in the sector; summing up the contributions of the sectors of the mask polygon; and calculating interaction effects from the finite integral calculation as recited in claims 1 and 30. Also, the prior art of record does not teach or fairly suggest a method for extending lithographic simulation integrals to include intermediate-range and long-range distance scales comprising all elements of dividing and decomposing, performing a distance scale calculation, implementing a triangle convolution, combining contributions, combining the plurality of mask polygons and computing an aerial image for OPC from the combined sector contributions as recited in claim 12.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (703) 305-4958. The examiner can normally be reached on M-F (6:30-4:00) 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (703) 308-1323. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vuthe Siek

  
VUTHE SIEK  
PRIMARY EXAMINER